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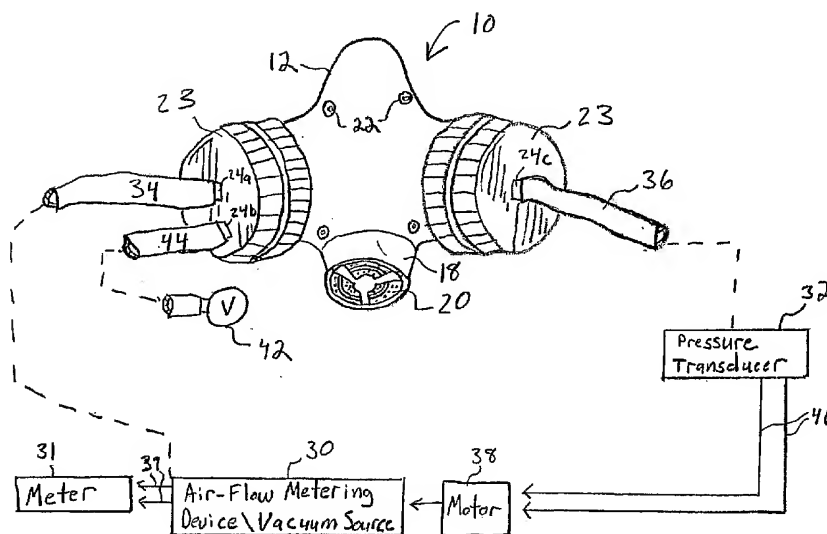
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(54) Title: RESPIRATOR FIT-TESTING APPARATUS AND METHOD



(57) Abstract: Improved respirator fit-test methods and apparatus featuring an automated, respirator wearer-controlled, air-leak measurement system. For fit testing of a respirator positioned on a test subject's face and connected to a controlled negative pressure testing apparatus, the test subject simply holds his breath and then activates a switch in electrical connection with said apparatus, which results in the automatic closure of the breathing port on the respirator and the initiation of a complete fit-testing protocol. The fit-testing apparatus includes a single, self-contained, automated unit that includes a vacuum source (30), an air-flow measuring device, and an air-pressure transducer (32) for connection to a respirator (10) being tested. By measuring the rate of air exhausted from the respirator in order to maintain a constant challenge pressure, an air leakage rate is determined.